WORKING MEMO 784

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DATE: February 10, 1997

TO: Office of Water Programs Staff

THROUGH: Eric H. Bartsch, P.E., Director
Office of Water Programs

FROM: Allen R. Hammer, P.E., Director
Division of Water Supply Engineering

SUBJECT: Water - Procedure - Permits - Permit Application/Comprehensive Business Plan

Delete: Attachment 4 of WM 706

PURPOSE:

To provide direction on the application process and on determining which waterworks owner is required to develop a Comprehensive Business Plan.

I. Application Process

The project evaluation process is a five part process consisting of a Notice of Intent, a Preliminary Engineering Conference (PEC), a Comprehensive Business Plan (if applicable), a Preliminary Engineering Report (PER) (if applicable), and final plans. These project processing stages are our traditional formal tools to assist waterworks owners and their consulting engineers in identifying and solving problems early in the project evaluation process. All parties should benefit in this evaluation process by saving time, effort, and money. Each successive phase (which must receive VDH concurrence or approval) expedites the final approval of the project. While the *Waterworks Regulations* currently describe a four part process, the *Code of Virginia* (see below) has expanded the process to five parts.

II. Comprehensive Business Plan

BACKGROUND:

Section 32.1-172 of the *Code of Virginia* states that "an application for a permit shall include a comprehensive business plan detailing the technical, managerial, and financial commitments to be made by the owner in order to assure that the waterworks' performance requirements for providing the water supply will be met over the long term" and further states that we "may require the submission of a business plan by those existing waterworks that have demonstrated

significant noncompliance with the *Waterworks Regulations*." The Safe Drinking Water Act Amendments of 1996 has required the State to develop a similar program that EPA calls "capacity development".

In addition, the *Code* allows for waiving the comprehensive business plan portion if an applicant has demonstrated an acceptable history of compliance with the *Waterworks Regulations*.

APPLICABILITY

Very few waterworks will be affected by our requirement to have a Comprehensive Business Plan. Waterworks owners that are governmental entities or private companies with a history of acceptable compliance with our *Waterworks Regulations* will not normally be required to provide a Comprehensive Business Plan.

Generally, only the following circumstances would require such a plan:

1. New Waterworks Owner - the development of a new waterworks or the purchase of an existing waterworks by a potential first-time owner of a Virginia waterworks or an owner that has a poor compliance history with the *Waterworks Regulations*.

2. Existing Waterworks Owner - Owners of an existing waterworks that is in significant noncompliance with the *Waterworks Regulations*.

3. Waterworks owners making application for a loan through the Drinking Water State Revolving Fund (DWSRF) unless the applicant has demonstrated an acceptable history of compliance with the *Waterworks Regulations*.

DOCUMENT

The attachment entitled "Waterworks Permit Application Process" was developed as the primary 36 page package to be used by our staff and the general public. This will be a dynamic package and you should always refer to the latest edition. Note that the majority of the material requested in the Comprehensive Business Plan is currently required.

Our staff must make the decision on who is not required to submit a Comprehensive Business Plan.

1. New Waterworks Owners - using the applicability statement described above, this decision should be made during the preliminary engineering conference phase which is prior to any well site inspections. The final decision shall receive the concurrence of the Field Director. Please note that in item 3 of the Notification of Intent, the owner(s) establish their association with any other waterworks. The Comprehensive Business Plan should be prepared in

conjunction with and could be submitted along with the Preliminary Engineering Report (PER).

In the case of a change in ownership, a decision should be made prior to the issuance of a revised operation permit.

2. Existing Waterworks - many waterworks that are in significant noncompliance with the *Waterworks Regulations* are very small and a requirement for a Comprehensive Business Plan may be exactly what is needed to establish sound fiscal practices but may also cause additional financial hardship. Each case should be evaluated separately and the extent of the business plan required should be tailored to the specific waterworks. The requirement for a Comprehensive Business Plan is appropriate for inclusion in many consent orders. The Comprehensive Business Plan may be a good persuasive tool for owners that are significant noncompliers or those on the verge of becoming significant noncompliers and debating whether to continue as an independent waterworks or seek another source of water such as a regional waterworks.

3. Waterworks Owners applying for a loan though the DWSRF- The VDH staff handling the DWSRF will determine whether a Comprehensive Business Plan or another form of certification will be required of an applicant.

STAFF REVIEW

The VDH's foremost intent is for the owner, through a Certified Public Accountant (CPA) or a licensed Professional Engineer (P.E.), to develop a plan that considers their long-term commitment and capability to operate a waterworks that meets all state and federal regulations. Our review of the Operations and Management portion and the Technical portion of the plan should be similar to our review of an O & M Manual and a PER. For the Financial portion, a plan developed by these professionals and meeting the financial analyses that we have provided should require only a limited review of the assumptions by our staff.

As we develop review expertise in financial concerns, it is recommended that questions related to the extent of our review of Part C.5 *Comprehensive Business Plan* Financial be forwarded through the Deputy Field Director to Tom Gray.

VDH handling will be by letter similar to PER approval. A Construction Permit or an Operation Permit (as appropriate) will not be issued unless a complete comprehensive business plan has been submitted and approved.

GWP/c

WORKING MEMO 784

WATERWORKS PERMIT APPLICATION PROCESS

September 1996
revision 1 - February 1997

Virginia Department of Health
Office of Water Programs
1500 East Main Street, Room 109
Richmond, Virginia 23219
804 - 786 - 5566

Waterworks Permit Application Process
A Compilation of Materials

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INTRODUCTION

Current Code of Virginia and Board of Health Waterworks Regulations address elements related to long term operations. They recognize the relationship between an owner's financial, technical, managerial and operational capabilities and his capacity to comply with state and federal drinking water standards. The Code states that the application shall include a comprehensive business plan detailing the technical, managerial, and financial committments to be made by the owner in order to assure that the waterworks' performance requirements for providing the water supply will be met over the long term. In addition, the Code allows for not requiring the comprehensive business plan portion if an applicant has demonstrated an acceptaple history of compliance.

Words to remember are *commitment* and *capability, i.e.,* the dedicated commitment to a self-sustaining waterworks by obtaining, developing, and maintaining the capabilities needed to achieve long-term success.

The Virginia Department of Health (VDH) has developed certain information, available by request, with the purpose to:

(1) describe the planning process necessary to provide a complete application,

(2) inform potential waterworks owners about the regulated and highly complex business of providing drinking water to consumers, and

(3) provide assistance to existing waterworks owners in meeting their obligations.

AM I A WATER SYSTEM OWNER -- OR SHOULD I BECOME AN OWNER?

==========

Your Guide to the World of Providing Drinking Water

Am I or will I become a drinking water system owner?

You are a drinking water system (waterworks) owner if you serve piped water for drinking or domestic use to at least 15 connections, to an average of 25 individuals for at least 60 days out of a year, or to the public. You are a waterworks owner if you serve drinking water to 15 homes or to 25 persons in one home or business.

Am I a drinking water system owner if I obtain water from an existing system?

If you obtain all drinking water service from an existing regulated water system, becoming part of it, and not reselling or retreating the water, you are not an system owner. The Virginia Department of Health suggests you contact existing system owners to determine if service is possible through an existing system or other arrangement.

Am I really prepared for the responsibility and complex business of delivering drinking water?

You need to determine your financial, technical, managerial and operational capabilities; adequate capabilities will allow you to operate sucessfully over the long term and to comply with drinking water regulations.

The Code of Virginia states "the Board of Health shall recognize the relationship between an owner's financial, technical, managerial and operational capabilities and his capacity to comply with state and federal drinking water standards. The application shall include a comprehensive business plan detailing the technical, managerial, and financial commitments to be made by the owner in order to assure that the waterworks' performance requirements for providing the water supply will be met over the long term." You may obtain a copy of the Waterworks Regulations from the Virginia Department of Health (VDH).

In addition, if the VDH requires hiring an operator, the waterworks owner must employ appropriately licensed operators. The Virginia Department of Professional and Occupational Regulation licenses and regulates operators.

What do I have to do? How do I start? Am I required to get a permit?

You must file an application for a permit. The Code of Virginia states that no one shall establish, construct, operate, change, alter or improve any waterworks without a permit from the Commissioner of Health. You may obtain this application and a handout entitled "Process Overview" from any office listed below. The handout outlines the VDH process from your first step to your ongoing, long term operation. In addition, you need to contact your local planning and zoning offices to obtain any local permits.

Will I need professional services?

You probably will need engineering, surveying, legal, and accounting services. Before you incur costs for these services, we encourage you to schedule a visit with any of the Virginia Department of Health field offices. During this visit, the VDH staff will discuss with you the demands of the drinking water business and provide you with information that will be helpful in your decision-making process.

Will I find the application process and planning useful?

Your use of the application process and the necessary planning will help you assure successful, long-term delivery of drinking water. You will make informed decisions regarding whether to create a waterworks or choose to pursue other alternatives.

You will enhance your knowledge of the complexity of the waterworks industry while properly preparing a preliminary engineering report and comprehensive business plan. Your planning will provide guidance for the business's future and will support application for financing and for issuance of permits to construct and operate a waterworks.

Am I required to complete the comprehensive business planning portion (PART C) of the application?

You must submit the comprehensive business plan (PART C) if you are a *potential first-time owner* of a Virginia waterworks.

The VDH will notify an e*xisting* waterworks owner if he must submit the comprehensive business plan (PART C). Normally, those owners demonstrating a history of compliance will not be required to complete Part C of the application.

Do I have to contact the State Corporation Commission?

Before you serve or plan to serve 50 or more customers (connections), you must apply to the State Corporation Commission (SCC) for a certificate of public convenience and necessity. As early as possible, you may contact the SCC's Division of Energy Regulation at 804 - 371 - 9611.

Can I buy an existing waterworks?

Yes, but you need to contact both the VDH and State Corporation Commission (SCC) before taking action. VDH waterworks operation permits are not transferable and may require submitting a comprehensive business plan. Before an owner acquires assets, the SCC must approve any transfers of assets. For more information on asset transfer, contact the SCC's Division of Public Utility Accounting at 804 - 371 - 9950.

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You may contact any office of the Virginia Department of Health (VDH). The VDH's engineering field offices are listed below. Staff can answer your questions and provide assistance and guidance before you get too far into your envisioned project.

Office of Water Programs Virginia Department of Health

Headquarters	804 - 786 - 5566	1500 East Main Street- Room 109	Richmond, VA 23219
FIELD OFFICES:			
CITY	PHONE	ADDRESS	
Abingdon	540 - 628 - 5161	454 East Main Street	Abingdon VA 24210
Culpeper	540 - 829 - 7340	400 South Main Street- 2nd Floor	Culpeper VA 22701
Danville	804 - 836 - 8416	1347 Piney Forest Road	Danville VA 24540
Lexington	540 - 463 - 7136	131 Walker Street	Lexington VA 24450
Richmond	804 - 674 - 2880	300 Turner Road	Richmond VA 23225
Virginia Beach	757 - 363 - 3876	5700 Thurston Avenue-Suite 203	Virginia Beach VA 23455

PROCESS OVERVIEW

The following illustrate major milestones in constructing or modifiying a waterworks. Each action requires Virginia Department of Health (VDH) concurrence or approval before preceding to the next step. Some items may not be needed for every waterworks. Separate applications or approvals are usually required by local governments for zoning, by state agencies for withdrawal of source water or drinking water treatment waste discharge and by the State Corporation commission if serving 50 or more customers.

ACTION	PERFORMED BY WHOM
Planning	
1. File **Application** PART A - notice of intent	owner
2. Attend Preliminary Engineering Conference(PEC)	owner, professional engineer and VDH
3. Source site inspection	VDH, owner and appropriate consultant
4. Tentative source site approval in writing to owner	VDH
5a. Business plan submittal	owner and owner's consultants
5b. Preliminary Engineer's Report (PER) submittal	Professional engineer
6. Plans and specification and design criteria submittal	Professional engineer
7. Recorded plat	surveyor
8. Recorded dedication document	owner
9. Cross connection and backflow prevention program	owner
10. Compliance sampling plan	owner
Construction	
11. Construction permit issuance	VDH
12. Construction inspections and testing	Professional engineer
13. Construction bacteriologicals collection	owner or contractor
14. Operator employed	owner
15. Statement of Completion submitted	Professional engineer
16. Final inspection	VDH
Long-term	
17. **Operation permit** issuance	VDH
18. Annual Permit fee payment	owner
19. Ongoing compliance sample collection	owner
20. Ongoing report submittal to VDH	owner
a. business plan reports	
b. monthly operating reports	

NOTE: follow-up conferences and technical assistance meetings can be arranged with VDH at any time.

THE WATERWORKS PERMIT APPLICATION

The five-part application (see below) is a step-by-step process that builds upon the previous step and allows a smooth progression to the issuance of permits to construct or modify and operate a waterworks. The process steps that build a complete application are:

PART A. *Notification of intent*
This part is filed before any other action. This notice of intent must be filed by any person desiring to construct, modify, or operate a waterworks.

This form is submitted by existing or prospective waterworks owners to initiate the application process. Statute requires a person to apply to the VDH prior to the establishment, construction or operation of a waterworks.

PART B. *Preliminary Engineering Conference*
This is a feasibility discussion and establishes the project's scope.

This conference provides for an exchange of information between all parties. The envisioned project will be discussed in its entirety. A draft business plan prepared by the owner may be useful at this stage. The business plan's content, discussions regarding system problems and technical design standards and construction requirements and ongoing commitments will help the potential owner determine if the project is feasible and, if so, the scope of work for the envisioned project.

This effort will enable the existing or prospective owner to consider many elements that will affect the long-term economic viability necessary to ensure stability of the project. Any thoughts for design exceptions should be formulated at this step. Design exceptions, if approved or not, may impact development of the materials for PART C and PART D of the application.

PART C. Comprehensive *Business Plan*
Required from new owners of a waterworks. Existing owners will be notified if it is needed.
This is a finished business plan prepared by a Certified Public Accountant or Professional Engineer in conjunction with the Preliminary Engineering Report.

The comprehensive business plan details the owner's financial, technical, managerial and operational capabilities and commitments to assure that the waterwork's performance requirements for providing the water supply will be met over the long term. It is an assessment of the waterwork's ability to be self-sustaining and to consistently provide quality service at an affordable cost over the long term. Weakness in any area can affect the *capability to provide adequate and reliable* water service. The major objectives of the business plan are:

1. to develop a comprehensive picture of waterworks demands and future requirements as to promote efficient operational and investment decisions over the long term.

2. to combine knowledge of drinking water issues with a comprehensive review of the costs of meeting operating requirements.

The comprehensive business plan, in conjunction with the PER, will address alternatives to the establishment of a new waterworks.

This approach does not assure a successful business; risk is always present. However, a carefully crafted business plan will increase the probability of success.

The comprehensive business plan is in four sections:

1. Background information - provides data on and qualifications of persons involved with the waterworks.

2. Operations and management - outlines records and tasks necessary for an effective and efficient waterworks.

3. Technical data - supplements PER especially with an existing system in significant noncompliance.

4. Financial - projects expenses and revenues, identifies sources of funds and financial controls necessary for the waterworks to be self-sustaining.

Failure by owner to complete and return a Business Plan or determination by the Virginia Department of Health (VDH) that the Business Plan is inadequate could result in the following actions:

New Waterworks

* VDH Construction and Operational Permit denial.
* VDH notification to local government can result in denial of subdivision approvals by local governments.

Existing Waterworks

* VDH notification to the consumers of a failure to provide a business plan.
* VDH notification to local government can result in denial of local building permits within areas served.
* VDH notification can result in denial of home mortgages within the service area by lending institutions.
* Possible receivership action

Institutional restructuring option for existing waterworks

An alternative to growth curtailment or possible receivership action might be institutional restructuring. In this case, alternatives include:

* Merging with an adjacent waterworks
* Acquisition by an adjacent waterworks
* Contract management, operation and maintenance services

PART D. *Preliminary Engineering Report (PER)*

This detailed report is prepared by a Professional Engineer licensed in Virginia.
Some items overlap with items in PART C - Business Plan.

Return to appropriate Virginia Department of Health Engineering Field Office for approval prior to plan development. Refer to the Waterworks Regulations for technical submission requirements and content.
All requests for design exceptions must be approved by VDH before proceeding to the next step.

PART E. *Final plans and specifications*
These construction documents are prepared by a Professional Engineer licensed in Virginia. Refer to the Waterworks Regulations for technical submission requirements.

WATERWORKS PERMIT APPLICATION - *PART A: Notification of Intent*

Return to the appropriate geographical Virginia Department of Health Engineering Field Office

1. Permit Type: Construction : New _____ Repair _____ Modify ____ Extend ____

Operation : _____(ownership transfer; facilities in existence)

2. Waterworks Name, if any:_____
State assigned PWS identification number, if any: ___- __ __ __ - __ __ __
City/County _____
Water Source: Surface _____: Name _____
Well _____
Purchased ____:From _____
Proposed number of connections:_____
Description of proposed work:_____
_____
_____
_____
_____
_____

3. I am associated, directly or indirectly, with the following waterworks (name and PWS ID):

4. I am aware of needed local government approvals including zoning ___YES _____NO.
5. I am aware that permits may be needed for water withdrawal or waste discharge permits. ___YES ___NO.
6. I have contacted the State Corporation Commission, if I plan to serve 50 or more customers___YES____NO.
7. Please schedule a Preliminary Engineering Conference for the _____ week of_____, 199___.

8. Applicant Name (Legal owner):_____
EIN or Social Security # :___ ___ ___ ___ ___ ___ ___ ___ ____
Address:_____
_____
Home Phone: _____ - _____ - _____
Work Phone: _____ - _____ - _____

_____ _____
Applicant's signature Date

WATERWORKS PERMIT APPLICATION - *PART B - Preliminary Engineering Conference*

Preliminary planning involves building and using this project by _____.

Preliminary planning indicates the following alternatives for supplying drinking water to this project:

Preliminary planning for a waterworks include the following components:

Questions or items to resolve:

.....

For VDH office use
FUTURE ACTIONS:

State Corporation Commission letter stating owner has contacted the Commission required: yes no

PER is required (unless only a waterline extension): yes no
recommended by : date:
concurred by: date:

Business Plan required: yes no recommended by: date:
concurred by: date:

WATERWORKS PERMIT APPLICATION - *PART C - Comprehensive Business Plan*

Return to appropriate geographical Virginia Department of Health Engineering Field Office

I request that this business plan (be __)(not be __) retained in confidence to the extent allowed by Code of Virginia section 32.1-172 B.

Applicant printed name:_____ signed:_____ date:_____

WATERWORKS APPLICATION PART C - Business Plan **PAGE #**

1. Executive summary
- **General overview that highlights company history and personnel experience** _____

2. Background - Company description and qualifications

3. Operations and management _____
- **Management**
- **Operation procedures**
- **Other**
- **Emergency response procedures including 24 hour phone number**

4. Technical - overlaps with Waterworks Permit Application PART D - Preliminary Engineering Report
- **a. General information** _____
- **b. Alternatives**
- **c. Waterworks** _____
  - **Description**
  - **Design criteria**
  - **Evaluation of waterworks**
    - **source description**
      - **water quality**
      - **source protection**
      - **safe yield (including withdrawal permits and permit limitations)**
      - **treatment**
    - **storage**
    - **distribution**
    - **hydraulics**
    - **operation and maintenance analysis**
- **d.Capital Improvement Program** _____
  - **summary of waterworks deficiencies from 4c above**
  - **20 year improvement schedule**
  - **6 year improvement schedule**

5. Financial program capability _____

6. APPENDICES _____

PART C.1. *Comprehensive Business Plan* EXECUTIVE SUMMARY

Provide a general overview that highlights company history and personnel experience.

PART C. 2. *Comprehensive Business Plan* BACKGROUND INFORMATION

In addition to an owner's background and experience, each new and existing (that is required to provide a comprehensive business plan) waterworks applicant shall provide the name, company affliation, address, phone number, qualifications and any membership in professional water industry organizations of :

(1) **Owner**

(2) **Office -** both the mailing and delivery location of the company's office(s):

(3) **Budget** -person/company who will be responsible for budget preparation and administration:

(4) **Tax returns and annual audit reports -** person responsible for filing.

(5) **Operatoring personnel** - person(s)/company(s) who will be responsible for routine operations including sample collection, maintenance, customer billing and collections, repairs, emergency service and daily management. Describe the technical background and experience of the operatoring personnel

(6) **Licensed Operator -** list the responsible person and their license number assigned by the Virginia Department of Professional and Occupational Regulation (DPOR).

(7) **Manager** - person/company who will manage the waterworks, if different from operatoring personnel.

(8) **Cross connection and backflow prevention program** - person who will be in charge of this program.

(9) **Professional Engineer -** list the person(s) and their Virginia DPOR license number(s) and firm(s) that will be responsble for PER development, plans and specification preparation, construction inspection, ongoing evaluations and reports. The term professional engineer as used in this document means a professional engineer licensed in Virginia.

PART C 3. *Comprehensive Business Plan* OPERATIONS AND MANAGEMENT

The Operations and Management Plan specifies the commitments needed to provide effective management and operation of the waterworks. The information represents three areas of concern:

- identification of the qualifications of owners, managers, and operators of the waterworks sufficient to document that they are responsible individuals or organizations;
- an operating plan to define the tasks to be performed in managing and operating the waterworks; and
- a plan of reporting to and review by the VDH to determine that the commitments made for proper operation and management of the waterworks does occur.

1. Items to be addressed - by new and existing waterworks

a. Management issues

(1) **Annual budget** - Describe the formulation process.

(2) **Controls -** Describe the controls that will be in place to keep operations within budget and the sanctions or consequences for budget overruns.

(3) **Cost sharing** - Describe any sharing of physical plant, staff, or other items with other nearby waterworks to reduce costs?

(4) **Capital Improvement Plan (CIP)** - Describe the planning process to be implemented. Assign responsibilities providing for future needs of the customers, including the increase of future supplies and extensions for new customers as may be necessary. Describe the financial structure (bonds, bank loan, personal funds, etc.) to support the waterworks.

This document is updated annually by the owner as part of his six-year budget update (refer to Part C 5).

(5) **Operator contract** - Provide a signed agreement or contract, between owner and operator, under which the proposed operator will serve.

(6) **Operator -** Describe (a) the limits of the operator's authority
(b) the ongoing training provided or required
(c) the number of hours on-duty per day (per week).

(7) **Mandatory connection** - Describe any policy on mandatory hookup for any connection in the waterwork's service area.

b. Operations issues

Procedures - Provide a copy of the written procedures for :

(1) *Maintenance*
Leak detection - Provide procedures, a schedule, and an accounting method to be used to determine water loss.
Waterworks maintenance - Provide documentation of a program for routine waterworks maintenance.
Spare parts - Provide a spare parts inventory listing.

(2) *Customer billing and collections*
Water service - Provide documentation of adequate procedures for providing water service, including turn-offs of customers for nonpayment of bills.

(3) *Customer complaints*
Complaints -Provide a description of procedures for handling customer complaints.

(4) *Daily operation of the waterworks*

Sampling and Reporting - Provide a plan (including the procedures, methods, schedule and location) for conducting required sampling, testing, and reporting regarding: water quality testing; pressure testing; production metering; and customer meter testing.
Safety - Provide procedures for operator safety:
Compliance - Describe monitoring and reporting requirements and a scheduling mechanism to assure compliance.
Compliance Records - Describe how records are maintained to document compliance.
Cross connection control and backflow prevention program plan - Provide a program consistent with the Waterworks Regulations.

c. Other

(1) **Records -** Provide a plan for maintaining the required records including at least: as-built service area maps; water quality, pressure, metering and other tests; customer and production metering; energy use; chemical use; water levels; and financial records.

(2) **Water source protection -** Provide procedures to protect the water source(s) from existing and future contamination:

(3) **Emergency plan -** Provide written emergency operating procedures for a flood, drought, major equipment failure and source water contamination:

(4) **Water conservation -** Describe water conservation procedures.

2. In addition to the above, address the following for Existing Waterworks

a. **Capital Improvement Plan -**

Provide the average ages of major treatment and distribution sub-waterworks, and what fraction of their useful life has already passed (¼, ½, etc.).

Provide a funding mechanism to replace these major waterworks components at the end of their useful service life.

Provide a waterworks improvement plan with schedule and source(s) of funding.

b. **Problems and Complaints -** Describe occasions of pressure problems, shut-downs, outages, or customer complaints.

c. **Technical Assistance -** Describe any regular or occasional technical assistance from outside sources, such as the state, your engineer, other utilities, or organizations specifically dedicated to providing technical assistance.

d. **Problems -** Describe problems identified by regulatory agencies and plans for correction.

e. **Actions -** Describe your past and future activities to comply with monitoring, reporting requirements.

PART C. 4. *Comprehensive Business Plan* - TECHNICAL DATA

Most data needed for the business plan is provided by the separately required Preliminary Engineering Report (PER) described in the Waterworks Regulations. Following are additional data necessary for an acceptable business plan; reflecting increased emphasis on:

(1) long-term planning needed to improve projected financial needs.

(2) investigating alternatives to new waterworks creation.

In addition to the PER, the following items are needed:

1. **General information:**

a. Provide an assessment of Safe Drinking Water Act (SDWA) and Clean Water Act (CWA) compliance requirements for existing and/or proposed facilities.

b. Describe problems identified by regulatory agencies and Waterworks owner's plans for proposed correction.

c. Provide a description of the nature and extent of the existing and future (20 year and 40 year) area to be served; and existing water service deficiencies in those areas. (The PER requires only a description of the area to be served.).

d. Describe existing water and sewerage facilities' impacts on the source quantity of the proposed waterworks; (the PER requires review of quality and operation impacts) and provide an appraisal of any existing waterworks deficiencies. (The PER requires a description of existing waterworks and sewerage facilities.).

e. Provide an implementation schedule for design, funding, permitting, construction, and expansion.

2. **Consumption & flow:**

a. Provide existing waterworks leakage rate.

b.. Provide actual consumption and flow demands of existing waterworks (PER requires design flow values).

c. Describe existing, currently proposed and potential future interconnections with other waterworks.

d. Describe plans for metering water production, wholesale, and retail accounts.

3. **Alternate plans:**

a. For each source of water supply considered, provide a description of the site, advantages and deficiencies of each, and the analysis leading to source selection. Upstream and downstream discharges and withdrawals, and extension and expansion of existing facilities must be reviewed.

b. Provide an assessment of alternatives for integration of the waterworks into adjacent waterworks. Institutional and facilities options must be reviewed.

PART. C. 5. ***Comprehensive Business Plan*** FINANCIAL

I. General

This section contains four criteria that are compared with budgeting information to determine the financial strength of the waterworks. *The purpose is to verify that the owner has a reasonable expectation of generating sufficient revenue to operate a reliable waterworks over the long term.*

A six year budget projection is prepared and submitted initially; in addition after the waterworks begins operation, the financial worksheets are filed:
(1) semi-annually for the first two years and
(2) annually for at least six years or until the VDH determines the worksheets can be waived based on satisfactory performance and compliance.

The ***Financial Analysis*** for new and expanding waterworks consists of four related financial comparsions. This covers a forward looking six-year planning period. The first three individual analyses examine the adequacy of the waterworks's operating budget, operating cash reserve, and emergency reserve. The fourth analysis, the household median income, allows evaluation of the water rate impact on waterworks users. The four criteria are listed below. A more detailed description follows.

Analysis #1 Operating Budget Summary: Revenues - Expenses ≥ 0

Analysis#2 Operating Cash Reserve Summary:Operating Cash Reserve ≥ 1/8 x Annual O&M +G&A

Analysis #3 Emergency Reserve Summary: Emergency Reserve≥ Cost of Most Vulnerable Facility

Analysis #4 Household Income Index Analysis Summary: Rates ≤ 1½ percent x MHI

Although an owner develops and submits a six-year budget for the Financial Analysis, the owner should review/update the budget at least every three months and a Capital Improvement Plan (CIP) every year. If a problem arises, VDH may request submission of an updated budget and CIP.

Attached are details and blank worksheets 1 - 5 for an owner to use to develop a budget, complete the analysis and submit the following:

Financial Analysis - Certified Public Accountant or Professional Engineer submittal
Worksheet 1. Six-Year Operating Budget Form
Worksheet 2. Projection of Water Revenues
Worksheet 3. Operating Cash Reserve Disclosure Form
Worksheet 4. Emergency Reserve Disclosure Form
Worksheet 5. Financial Analysis Summary Sheet

The **State Corporation Commission** (SCC) requires waterworks owners that they regulate to establish a standard accounting system. Contact the SCC for more information.

II. Completing The Financial Analysis

The owner's consultants (professional engineer, certified public accountant,) complete a six-year budget using the PER/Business Plan and the information and worksheets provided herein. Reference material entitled "Developing an Operating Budget" is available.

After all 56 lines of the budget (Worksheet 1) and the projection of water revenues (Worksheet 2) for the planning period have been completed, the remaining Financial Analysis requirements can be fulfilled. The next action is to establish and fund the operating, emergency and replacement reserves with the funds identified in the budget. The last step in taking the Financial Analysis is to fill out Worksheet 5 - Financial Analysis Summary Sheet.

When the waterworks owner believes he passes the analysis, the Financial Analysis forms are submitted by licensed professionals (Professional Engineer, Certified Public Accountant) to VDH for review and approval.

As stated earlier, the owner may be able to create much of the Financial information and work with his consultants to submit the documents for review and approval.

Financial Analysis - Pass/Fail Consequences

The waterworks owner has direct control over the outcome of the first three analyses (i.e., the waterworks either does or does not perform the required actions). The fourth analysis, however, is only to be used as a tool for determining if the rates are affordable. It may not be within the power of the owner to assure that water rates are less than ***l½ % of median household income (MHI).*** The MHI information is available in the federal census data.

Consequences of Financial Analysis

It is important to note the consequences of either passing or failing the financial analysis with respect to public health and waterworks development. The following consequences apply to either passing or failing the first three financial analyses.

The waterworks owner, by passing the first three financial analyses may be able to:

- manage, operate and maintain a successful waterworks,
- respond in an emergency situation by obtaining needed resources,
- plan for and implement needed improvements to supply growth without interruption,
- improve working relations with lending institutions , and
- facilitate the documentation process for existing and potential financial assistance programs.

Failing the first three financial analyses could lead to:

Determination by VDH that the waterworks is inadequate, which could result in:

- Denial of VDH construction and operation permits
- Denial of building permits by local governments,

- Denial of subdivisions by local governments,
- Denial of home mortgages by lending institutions,
- Receivership action ordered by the courts after action initiated by VDH, as has occurred in past enforcement cases.

Restructuring

For waterworks that fail any of the first three financial analyses, an alternative to growth curtailment or possible receivership action might be restructuring. In this case, alternatives include:

- Merging with an adjacent waterworks,
- Acquisition by another waterworks owner,
- Governmental formation of a water department, water authority or sanitary district, or
- Contracting for management, operation and maintenance service from a qualified operator.

The Financial Analysis can be used as a tool where restructuring is being considered to:

- Assist in determining the cost to restructure, or
- Compare the cost associated with a selected restructuring alternative to the cost to achieve and maintain compliance as an independent waterworks.

Fourth Financial Analysis Consequences

Passing the fourth analysis indicate that rates are within a range generally accepted as affordable. If a waterworks rates are above this range, the owner should recognize that rates may be unaffordable to waterworks users. If a waterworks fails the fourth analysis, VDH suggests the owner investigate restructuring options and provide the findings to the waterworks users.

Public Disclosure

It is important to emphasize that the Financial Analysis is used not only as a tool for determining waterworks adequacy, but also may be used as a public disclosure document for existing and potential waterworks customers. At the option of the owner, the results of the Financial Analysis should be distributed to the customers of the waterworks. Some options for distributing this information include: newsletters, annual reports, bill attachments, and a separate document.

III. Financial Analysis Description

All four individual analyses are discussed below in detail. These analyses demonstrate a certain capacity or ability needed for successful operation of a waterworks.

Analysis #1- Develop An Operating Budget

The first analysis requires the waterworks owner to develop an operating budget that *demonstrates* sufficient revenue to meet all incurred expenses. The initial operating budget is for a six-year period. Review/updates to the budget should be completed at least every three months, including impacts from projects and activities identified in their PER.

During the operating budget process, an owner reviews whether he is generating sufficient revenue to meet estimated expenses. Smaller non-municipal waterworks are generally limited in the amount and type of non-rate revenue available to them. If the waterworks does not have sufficient revenue to meet all of its expenses, it should either raise its water rates or reduce non-essential expenses. The items in an operating budget, and the procedures to develop an operating budget are further detailed in the available reference material entitled 'Developing AN Operating Budget.

Analysis #1 Operating Budget Summary

Revenues - Expenses ≥ 0

Analysis #2- Create And Fund An Operating Cash Reserve

The second analysis requires the owner to *demonstrate* the ability to withstand cashflow fluctuations. There can be a significant length of time between when a waterworks provides a service and when a customer may pay for that service. A study of the waterworks' historic cashflow can accurately quantify the time period between delivery and payment for service. A **45-day difference** is the generally accepted industry norm. Because of this potential delay in payment, most waterworks attempt to keep **at least 1/8** of their annual operating and maintenance (O&M) and general and administrative (G&A) expenses in an Operating Cash Reserve to prevent cashflow problems. The Operating Cash Reserve is essentially the check-book balance an owner maintains to meet cashflow needs and provide contingency funds for unforeseen operating emergencies.

This reserve can be funded initially with:
1) a one-time charge,
2) a transfer of funds from an existing reserve, or
3) funds accumulated in the first year of the budget in the Operating Cash Reserve line item (Worksheet 1, line 43)

If a waterworks does not presently have an existing Operating Cash Reserve equal to or greater than 1/8 its annual operating budget (O & M and G & A), it must *demonstrate* how this reserve will be funded or demonstrate its ability to withstand cashflow fluctuations.

Analysis #2 Operating Cash Reserve Summary

Operating Cash Reserve ≥ 1/8 x Annual O&M + G&A

Analysis #3- Create And Fund An Emergency Reserve

The third analysis requires the owner to *demonstrate* the ability to cover the costs of an emergency or failure of its most vulnerable waterworks component. This can be accomplished either by:
1) developing and funding an Emergency Reserve or
2) obtaining an alternative financing arrangement.

In the Business Plan/Preliminary Engineering Report, a waterworks owner conducts a vulnerability assessment to establish the facility equipment most prone for failure. Generally, replacement of a production well, a source of supply, the largest pumping equipment, or key transmission lines represents the most vulnerable facility and is used to estimate the minimum Emergency Reserve amount.

Determining the emergency reserve level for a waterworks is also a function of management objectives and overall waterworks reliability. If an owner creates an Emergency Reserve, this reserve can be funded initially with:
1) a one time charge,
2) a transfer of funds from existing reserves,
3) funds accumulated in the six-year budget in the Emergency Reserve line item (Worksheet 1, line 48), or
4) an alternative financing arrangement.

Analysis #3 Emergency Reserve Summary

Emergency Reserve≥ Cost of Most Vulnerable Facility

Analysis #4- Conduct Median Household Income Index Analysis

The fourth and final analysis has the waterworks owner *measure* the rate impact of increased operating and facility expenses on the waterworks users. To complete this analysis the owner should:

1) Compute **1½ percent** of the respective county's average annual median household income (MHI). The MHI is a value computed by the U.S. Census Bureau.

2) Determine the current and projected average annual residential water bill (for all six years) using either the flat rate or metered rate (for a metered rate, compute average bill from an estimate of average annual residential use identified in your Plan), and

3) Compare the existing and projected average annual residential bill to 1½ percent annual MHI for all six years.

This analysis provides an indication of a residential connection's ability to pay the existing and projected rates. When rates exceed l½ percent of the MHI in any year of the budget, the waterworks' rates may not be affordable.

Analysis #4 Household Income Index Analysis Summary

Rates ≤ 1½ percent x MHI

Waterworks

Financial Analysis - Worksheet Submittals

Worksheet 1. **Six-Year Operating Budget Form**

Worksheet 2. **Projection of Water Revenues**

Worksheet 3. **Operating Cash Reserve Disclosure Form**

Worksheet 4. **Emergency Reserve Disclosure Form**

Worksheet 5. **Financial Analysis Summary Sheet**

.....

I have reviewed the documents listed above and hereby submit it for review and approval by the Virginia Department of Health.

Printed Name: _____

_____	_____	_____
Signature	**Date**	**Seal**

Six Year Operating Budget (Worksheet 1)

Line No		Projected Year 1	Actual 0-6 months	Year 1 7-12 months	Projected Year 2	Actual Year 2 0-6 months	7-12 months	Year 3	Year 4	Year 5	Year6
1	REVENUES										
2	Water										
3	Fees and Service										
4	Othcr Revenue										
5	TOTAL REVENUES (Add 2-4)										
6	EXPENSES										
7	Operation & Maintenance Expenses										
8	Salaries &t Other Benefits (Operator)										
9	Power & Other Utilities										
10	Chemical & Treatment										
11	Monitoring										
12	Materials, Supplies & Parts										
13	Transportation Expenses										
14	Miscellaneous Expenses										
15	Total Operation & Maintenance Expenses(Add 8-14)										
16	General and Administrative Expenses										
17	Salaries & Benefits										
18	Office Supplies & Postage										
19	Insurance - Vehicles, Liability, Workers' Comp										
20	Legal & Accounting										
21	Engineering & Professional Services										
22	Fees										
23	Miscellaneous Expenses (e.g. Training)										
24	Total General Administrative Expenses (Add l7-23)										
25	Depreciation Expense (If Aplicable)										
26	TOTAL EXPENSES (Add 15+24+25)										
27	Taxes (Property, B & O, Income)										
28	Annual Debt Payments - Loans/Bonds(Principal & Interest)										
29	Total Outstanding Debt - Loans/Bonds(Principal & Interest)										
30	Capital Improvement Program Expenditures										
31	New CIP Facilities										
32	Renewal & Replacement Facilities										
33	Safe Drinking Water Act Facilities										
34	Non-Facility Costs (e.g. conservation program costs)										
35	Capital Sources										
36	Loan/Bonds Fund										
37	Grants										
38	Special Charges										
39	Withdrawal From Existing Reserves										
40	Net CIP (31+32+33+34)-(36+37+38+39)										
41	Operating Cash Reserve										
42	Minimum Balance (1/8 Line (15 +24)										
43	Annual Installment										
44	Running Balance										
45	Emergency Reserve										
46	Minimum Balance (Cost of Most VulnerableFacility)										
47	Annual Inatallment										
48	Running Balance (May be Alternative Financing)										
49	Replacement Reserve										
50	Target Balance (Waterworks Replacement Cost)										
51	Annual Installrnent										
52	Running Balance										
53	TOTAL REVENUE REQ.(Add 26+27+28+40+43+47+51)										
54	BUDGET SURPLUS (DEFICIT) (Subtract 5-53)										
55	0.015 Annual Median Household Income										
56	Projected Annual Residential Bill (from Worksheet)										

Projection Of Annual Water Revenues (Worksheet 2)

FORECASTED

Line No.		Year 1	Year 2	Year 3	Year 4	Year 5
1	Forecasted Number of Service Connections					
2	Meter Charge @ $_____/Meter					
3	Projected Water Sales (Gallons)					
4	Commodity Charge @ $____/1,000 Gallon					
5	Total Projected Revenue					
6	Rate Revenue Per Connection					

Operating Cash Reserve Disclosure Form **(Worksheet 3)**

Type of account:

___ bank checking/savings _____ escrow account _____ trustee account

_____ other (specify)

Name of bank or institution:

****

Emergency Reserve Disclosure Form **(Worksheet 4)**

Type of account:

___ bank checking/savings ____ escrow account ____ trustee account

____ other (specify)

Name of bank or institution:

OR

Type of commitment:

____ surety bond ___ letter of credit ____ guarantor ____ other

_____ (specify)

Name of bank or name and relationship of guarantor:

Financial Viability Analysis Summary (Worksheet 5)

Analysis 1 - Do you have a budget in place, and are rates sufficient to cover expenses?	BUDGET YEAR 1	BUDGET YEAR 6	BASIS FOR CALCULATION
1 REVENUES			
2 Water Rates			From Worksheet 1, Line 2
3 Total Other Revenues			From Worksheet 1, Lines 3+4
4 TOTAL REVENUE (Add lines 2-3)			Should Equal Line 5 of Worksheet 1
5 EXPENSES			
6 Total O&M & A&G Depreciation Expenses			From Worksheet 1, Line 26
7 Taxes (Property, B&O)			From Worksheet 1, Line 27
8 Debt Service Payments			From Worksheet 1, Line 28
9 Net CIP From Rates			From Worksheet 1, Line 40
10 Operating Cash Reserve (Increase)			From Worksheet 1, Line 43
11 Emergency Reserve (increase)			From Worksheet 1, Line 47
12 Replacement Reserve (Voluntary Increase)			From Worksheet 1, Line 51
13 TOTAL REVENUE REQUIRED (Add Lines 6-12)			Should = Line 53 of Worksheet 1
14 Required Water Rates (Line 13 - Line 3)			Total Expenses Less Other Revenue
15 Is Line 4 = > Line 13			Yes/No, If No Go Back & Raise Rates or Reduce Expenses
Analysis 2 - Is the Operating Cash Reserve = to or greater than [(O&M + G&A budget subtotal X 45)/365]?			
16 Current Operating Reserve (beginning of year)			From Worksheet 1, Line 44
17 Plus: Budgeted increase (Line 10)			
18 Total Operating Cash Res. Funds (Line 16 + 17) (end of year)			
19 Required Operating Cash Reserve (Line 6 X 0.125)			From Worksheet 1, Line 42
20 Is Line 18 = > Than Line 19			(45 Days/365 Days) = 1/8=0.125 Yes or No, If No Continue to Budget Annual Increase in Budget
Analysis 3 - Is the Emergency Reserve = to or greater than the cost of the most vulnerable facility?			
21 Current Emergency Reserve (beginning of year)			From Worksheet 1, Line 48 or Separate Emer. Reserve (Alt. Fin.)
22 Plus: Budgeted increase (Line ll)			From Worksheet 1, Line 47
23 Total Emergency Res. Fund. (Line 21 + 22) (end of year)			From Worksheet 1, Line 48
24 Cost of most vulnerable facility			From Worksheet 1, Line 46
25 Is Line 23 = > Than Line 24			For Budget Year 6, Yes or No, If No Increase Annual Budget
Analysis 4 - Household Income Index; Is 1.5 percent of Median Household Income = to or greater than Cost/ERU?			
26 Median household Income			
27 Median Household Income X .015 (Line 26 X 0.015)			
28 Cost/ERC (Line 14/Line 31)			
29 Is Line 27 = > Than Line 28			Yes or No, If No, VDH suggests waterworks explore restructuring option or revise improvement Implementation Schedule
<u>Customer Data</u>			
30 Median Household Income			
31 Total Number of Equivalent Residential Connections			From Your Customer Records or PER

Developing An Operating Budget

After an owner has a complete PER, the next step is to develop an operating budget. Much of the information in the budget will be taken from the waterworks' PER. This Appendix contains a description of each line in Worksheet 1 - Six-Year Operating Budget Form.

Sources For Budget Information

Whenever possible, known historical costs should be used when developing a budget. If no historical cost information exists, the waterworks owner, or a consultant, is responsible for estimating annual budget expense.

For projecting unknown expenses into the future, a **5% inflation** factor is suggested unless the waterworks documents its own inflation rate. You may find some line items not applicable to your specific waterworks, in which case the line should be left blank.

Description of Worksheet 1 - Six-Year Operating Budget Form

REVENUE (Line l)
The first category of the operating budget is revenue. Revenue is sources of income to the waterworks. The following descriptions compare the various revenue sources typically available to waterworks. Some of these actually act as a direct offset to capital improvements and are explained with the expenses. Listed below are brief descriptions of these major categories and methods of forecasting revenues for the operating budget.

Water (Line 2)
The water line includes all money received for supplying water service. To forecast total water sales, you must know the number of service connections and amount of water sold by the waterworks. This information should be in the waterworks's PER. Once a water sales forecast and number of service connections has been projected, a forecast of water revenues can be computed by using Worksheet 2 Projection of Water Revenues.

Fees and Service (Line 3)
Include all other miscellaneous fees and charges for service provided other than for water service and connection fees (e.g., bad check fees, reconnect fees, meter analysising fees, etc.). Initial first time hookup charges (connection fees) would be included on Line 38 "Special Charges."

Other Revenue (Line 4)
Includes all other revenue that does not apply to the categories above. This line could include savings deposit interest or interest earned on other investments.

TOTAL REVENUE (Line 5) (add lines 2-4)
In the revenue section of the budget, the importance of tying information together, as well as utilizing a common forecast of service connections and consumption throughout the budget process, is critical.

EXPENSES (Lines 6)
The second major section of an operating budget is the identification of the waterworks's expenses. Expenses include all those activities or purchases which incur cost or increase assets of the waterworks. Expenses can be estimated in various ways. One method bases the projections on historical experience. This can be accomplished by using historical costs and escalating them for known and projected changes. An example of a known change would be an increase in labor costs for the budget period due to known or anticipated salary increases. As stated earlier, an example of a projected increase or escalation in costs would be a **5% annual inflation rate**. Materials and Supplies expense, for instance, would be expected to increase with the projected inflation rate.

Operating and Maintenance Expenses (O & M) (Line 7)
These expense items refer to all expenses incurred by the waterworks in the production and delivery of water to customers; for example, operator salaries, power to operate the pumps, chemicals for treating water.

Salaries and Benefits (Operator) (Line 8)
Include all compensation to employees of your waterworks when the work is related to the waterworks' operation and maintenance (O&M). This account should not include compensation of officers, directors, or general and administrative staff. For new waterworks, O&M labor costs should be identified for each year of the six year budget. Volunteer labor is not applied. For existing waterworks it is advisable that professional Virginia licensed operators be employed and O&M labor costs be identified in the budget for all six years. For existing waterworks currently utilizing volunteer labor, O&M labor cost for outside operational assistance must be identified for at least the first year of the budget.

To calculate this amount, a new waterworks or a waterworks currently using volunteer labor should contact a qualified operator and obtain an annual cost estimate to operate the waterworks (labor cost only). Non-volunteer costs for operational assistance do not have to be identified for subsequent years unless professional O&M is required.

Power and Other Utilities (Line 9)
Include the Cost of all electric power, water, telephone, and any other waterworks-related expenses incurred in producing and delivering water.

Chemicals for Treatment (Line 10)
Include the cost of all chemicals used in the treatment of water. Also include the cost of any chemicals manufactured by the waterworks and used in providing waterworks service.

Monitoring (Line 11)
Include all water monitoring costs incurred by the waterworks. This includes both in-house monitoring and analysis costs, and outside laboratory costs. Recent changes to the SDWA require waterworks to significantly increase their monitoring activities for many drinking water contaminants that were not previously regulated. As determined in the water quality analysis discussion in your PER, you will have to comply with all of the new regulations in the near future. Depending on your waterworks' characteristics, some of those regulations will require extensive monitoring for chemical and microbiological contaminants, as well as corrosivity of the water. The Virginia Department of General Services (Division of Consolidated Laboratories) is required by state code to (and receives funds from the state general fund to do so) analyze most, but not all, required drinking water samples.

Materials, Supplies, and Parts (Line 12)
Include all materials and supplies used in the O&M of the waterworks and in producing and delivering water to the customer. Include any repairs or parts needed in producing and delivering water. This would include grease and oil, and minor repairs to equipment. This should not include materials used for administrative purposes such as postage, copying, billing forms, or paper.

Transportation Expenses (Line 13)
Include all expenses related to trucks, automobiles, construction equipment, and other vehicle expense used in producing and delivering water to the customer.

Miscellaneous Expenses (Line 14)
Include all other expenses not included in the previous O&M expenses which were incurred in producing and delivering water.

Total Operation and Maintenance Expenses (Line 15) (Add Lines 8-14)

General and Administrative Expenses (G & A) (Line 16)
These expenses are considered overhead and are not directly related to the O&M of the daily production and delivery of water to the customer. This category includes billing and administrative costs incurred by the waterworks. For example, all meter-reading costs, secretarial cost, postage, publications, reference material, uncollectible debt, insurance, accounting services, and all other overhead items belong in this subsection.

Salaries and Benefits (Line 17)

Include all compensation to employees of your waterworks in which the work is related to the administration of the waterworks, such as officers, directors, secretarial, and meter-reading salaries and benefits. This account should not include compensation of operators. Please note that estimates for non-volunteer labor should not be overlooked on smaller waterworks when outside assistance is anticipated.

Office Supplies and Postage (Line 18)
Includes all materials and supplies used in the administration of the waterworks. This includes office supplies, postage, copier charges, and paper.

Insurance - Vehicles, Liability, Workers' Compensation (Line 19)
Include all insurance costs associated with the coverage for the vehicles, general liability, workers' compensation insurance, and other insurance costs related to the operation and administration of the waterworks.

Legal and Accounting (Line 20)
Include all salaries and wages associated with legal and accounting functions for the waterworks. This includes outside legal and accounting assistance.

Engineering and Professional Services (Line 21)
Include all engineering and other professional services expenses associated with the planning and design requirements of the waterworks.

Fees (Line 22)
Include all regulatory expenses for zoning and planning approvals. Also include the annual fee for the Waterworks Operating Permit received from VDH.

Miscellaneous Expenses (Line 23)
All other expenses not included in the previous general and administrative expenses. For example all expenses associated with employee training and operator licensure requirements (class, registration fee, travel, etc.), public relations campaign and public notification may be included in this category.

Total General & Administrative Expenses (Line 24) (Add Lines 17-23)

Depreciation Expense (Line 25)
Depreciation only applies to waterworks that are currently depreciating assets. Waterworks that are already charging a depreciation expense must identify the actual depreciation expense as a separate item. For a waterworks that is not currently charging an expense for depreciation for tax purposes, and would like to do so, the waterworks may want to contact an accountant to generate a legally justifiable depreciation expense. For all other waterworks, addressing how existing facilities are eventually going to be replaced is discussed in the Replacement Reserve discussion.

TOTAL EXPENSES (Line 26) (Add Lines 15+24+25)

Taxes (Line 27)
Your waterworks can incur a variety of taxes such as state utility tax, business and occupation (B&O) tax, property tax or federal income tax. Each of these taxes can be accounted for separately within the operating budget.

Annual Debt Payments- Loans/Bonds (Principal and Interest) (Line 28)
Annual debt payments are the cost associated with the repayment of short-term and/or long-term borrowing. If desired, it can be further subdivided between interest and principal payments. The debt coverage costs should be included on this line. These items can be tied directly to your loan note, bank statement, or bond papers.

Total Outstanding Debt- Loans/Bonds (Principal and Interest) (Line 29)
The summation of all outstanding debt should be identified. This figure will help the waterworks keep track of its existing financial condition. The line entry will change annually with the annual debt payment installment.

Capital Improvement Program (CIP) Expenditures (Line 30) Taken directly from the waterworks' PER /Business Plan Capital Improvement Program, this line includes facility and non-facility costs related to 1) meeting growth requirements or improving waterworks' infrastructure to provide better service and reliability to existing customers, 2) replacing or renovating existing facilities, or 3) ensure compliance with drinking water regulations. Non-water revenue from *loans, grants, and special charges* may act as direct offsets to these capital expenditures. The unfunded difference is the net capital improvement program costs which must come from water revenues.

New Capital Improvement Facilities (Line 31)
Include all costs incurred to purchase new, or growth-related facilities, excluding major facilities required by the SDWA (see Line 33). These new or growth-related capital improvements can be for extensions of new service, installing new wells or piping facilities or new facilities that are not replacing existing facilities (i.e., all new facility costs except replacement facilities). New CIP costs should be consistent with the waterworks's PER/Business Plan improvement program.

Renewal and Replacement Facilities (Line 32)
Include all costs for renovating or replacing existing waterworks facilities. Renewal and replacement costs for capital improvements should be consistent with the waterworks's improvement program.

Safe Drinking Water Act Facilities (Line 33)
Include all costs which you know or anticipate will be incurred to install major facilities to remain in compliance with the SDWA. SDWA related capital improvements should be consistent with the waterworks's Preliminary Engineering Report/Business Plan improvement program.

Non-Facility Costs (Line 34)
Include all costs contained in the waterworks's Capital Improvement Program that are not facility related. For example, costs to implement a conservation program may be included in this line. Non-facility costs should be consistent with the waterworks's PER/Business Plan improvement program.

Capital Sources (Line 35)
Include the source of monies used to pay for all or part of the capital expenditures identified above (Line 31+32+33+34).

Loan Funds (Line 36)
Include monies received from short-term or long-term debt used to pay capital improvement costs. A waterworks may borrow monies from a local bank, from state funding sources or may sell bonds. The loan or borrowed monies are shown under "Loan Funds," and the corresponding debt associated with the borrowing of these monies is shown under “Debt Payments." For every loan outstanding, there should be a corresponding debt payment shown.

Grants (Line 37)
Include monies received from local, state or federal agencies which usually do not require repayment. Grants usually require the waterworks to contribute a portion of the project cost in order to receive the grant funding. Grant monies are scarce and are generally difficult to obtain. For every grant shown, there should be an offsetting dollar amount shown under "New CIP”, "Renewal or Replacement", “SDWA” capital expenditures, or non-facility costs.

Special Charges (Line 38)
Include monies received from customers connecting to your waterworks for the first-time. These special charges are considered a buy-in to the waterworks. Special charge monies are to be used only for new CIP. They should be collected and accounted for in a separate cash fund. You should use all special charge monies to pay for new CIP. If you have more special charge monies than new CIP shown in the budget, the difference should be set aside in a separate cash fund (Emergency Reserve) and can be used during another budget cycle to pay for new CIP. The special charge monies should never be used for daily operating expenses.

Withdrawal From Existing Reserves (Line 39)
Include monies that the waterworks has previously generated and accumulated. These funds could have originated from any of the revenue sources (Lines 2-4). These funds can be taken from the Emergency reserve. If, by withdrawing funds from the Emergency

reserve, the waterworks reserve level falls below the cost to replace the most vulnerable facility, the waterworks should demonstrate how this reserve will be reestablished within one year.

Net CIP From Rates (Line 40) (Lines 31+32+33+34)-(Lines 36+37+38+39)
Whatever CIP expenditures not identified in the capital sources section will have to be paid for with water revenue.

Operating Cash Reserve (Line 41)
The Operating Cash Reserve section of the budget has three separate lines: Minimum Required Balance, Annual Installment and the Running Balance.

Minimum Required Balance (Line 42)
The minimum balance equals **1/8** the amount of the expenses identified in the operation and maintenance (O&M) (Line 15) and general administration (G&A) (Line 24) line items. For each year of the budget, if the O&M and G&A are increased, the minimum required operating cash reserve balance must increase.

Annual Installment (Line 43)
The annual installment is the dollar amount the waterworks puts into the reserve for that particular year of the budget.

Running Balance (Line 44)
The running balance represents the balance at the end of the planning year (i.e., if the owner adds funds to the reserve, the running balance will increase. If the waterworks is required to take funds from the reserve for an emergency, the running balance would temporarily show a decrease until the waterworks restores the reserve balance).

The **Operating Cash Reserve** is accounted for separately from the capital and special charge monies. For new and existing waterworks, the total Operating Cash Reserve running balance should be identified in the first year of the budget. Once the Operating Cash Reserve monies are fully funded, no further changes to the Operating Cash Reserve running balance are needed unless the waterworks's O&M or G&A expenses change.

As O&M or G&A costs change, a yearly adjustment will be needed. The reserve balance is computed by multiplying the total of O&M, and G&A expenses by 0.125 **(1/8)**. This analysis should be reviewed each budget cycle to ensure the Operating Cash Reserve is adequately funded. The monies are considered a "restricted" balance and should only be used for O&M and G&A emergencies. If it is necessary to use some of the funds, they should be replenished within one year of withdrawal.

To set up an Operating Cash Reserve the owner selects an appropriate account and discloses the necessary information on the Operating Cash Reserve Disclosure Form and Financial analysis Summary Form.

Emergency Reserve (Line 45)
The Emergency Reserve section of the budget also has three separate lines: Minimum Balance, Annual Installment and the Running Balance.

Minimum Required Balance (Line 46)
Represents the cost to replace the most vulnerable and critical facilities or equipment which may impact the reliability of the waterworks as identified in the waterworks's PER/Business Plan.

Annual Installment (Line 47)
The annual installment is the dollar amount the waterworks puts into the reserve for that particular year of the budget.

Running Balance (Line 48)
The running balance represents the balance at the end of the planning year (i.e., if the owner adds funds to the reserve, the running balance will increase. If the waterworks is required to take funds from the reserve for an emergency, the running balance would temporarily show a decrease until the waterworks restores the reserve balance).

This reserve is considered a "restricted" balance and should be accounted for separately from the **Operating Cash Reserve** and the special charge monies discussed above. The owner can either fund this reserve with a one-time funding charge or can demonstrate that the reserve will be funded with projected annual installments for the budget cycle (6 years). If used, the reserve should be fully restored within the planning year.

As an alternative to funding the **Emergency Reserve** with cash, the owner may be able to obtain a second-party assurance or commitment**.** This is confirmed in a written agreement. Your waterworks may be assessed a fee for establishing a financial assurance alternative, but is only required to utilize and pay back funds if an emergency occurs. Financial assurance alternatives include surety bonds, guarantees and letters of credit.

When an owner selects an approved financial assurance alternative, he must disclose the necessary information on the Emergency Reserve Disclosure Form.

Replacement Reserve (Line 49)
The Replacement Reserve section of the budget also has three separate lines; instead of a Minimum Required Balance, the Replacement Reserve has a Target Balance, An Annual Installment line and a Running Balance line.

Target Balance (Line 50)
Ideally, the owner will have identified a replacement program in the PER/Business Plan. The PER/Business Plan also includes plans for financing future improvements. Given the barriers and high transaction costs to debt financing that small waterworks face, the VDH encourages small waterworks owners to start a Replacement Reserve so that they have cash on hand to fund future improvements.
The owner must decide what amount will be contributed to a Replacement Reserve. A simple formula would be to divide the total waterworks replacement cost, as determined in the PER/BusinessPlan, minus the existing amount in the Emergency Reserve, by a 20 year period.

There are many benefits that the waterworks will receive by funding this reserve including:
1) accumulated cash will lessen the financial burden of future improvements,
2) improved financial strength of the waterworks which may improve the terms of future debt, and
3) existing reserves could provide anyn required matching funds for loan and grant programs.

Starting and routinuely funding a Replacement Reserve will spread the economic burden of future costs over a longer period and lessen rate shocks to the customers on the waterworks.

Annual Installment (Line 51)
Represents the dollar amount that the waterworks is planning on generating from revenues committed to the Replacement Reserve for that year. As this reserve is voluntary, the formula for computing the annual installment amounts is at the discretion of the waterworks. VDH recommends that annual installments be approximately **1/20** of the total replacement cost (minus the existing reserves in the Emergency Reserve).

Running Balance (Line 52)
The running balance represents the balance at the end of the planning year (i.e., if the owner adds funds to the reserve, the running balance will increase. If the waterworks is required to take funds from the reserve, the running balance would temporarily show a decrease until the waterworks restores the reserve balance).

Total Revenue Required (Line 53)
The total amount of funds that a waterworks will have to generate to meet all waterworks costs is computed by adding lines 26+27+28+40+43+47+51.

Budget Surplus (Deficit) (Lines 54)
The last step of the budget process is to see if the waterworks is generating sufficient revenues to meet the total revenue required. This is calculated by deducting total revenue required (Line 53) from the total revenue line (Line 5). There is a budget surplus if the difference is positive and a budget deficit if the difference is negative. If your waterworks has a deficit, you should review your expenses and raise your water rates to generate sufficient income or reduce non-essential expenses. If there is a surplus of funds, VDH recommends that the surplus funds be put into one of the reserve accounts.

l ½ % MHI (Line 55)
The financial analysis uses a water rate affordability benchmark of l ½ % of the median household income (MHI) for the waterworks's service area. If a waterworks' rate exceeds l½ % MHI, the rate may be unaffordable. The waterworks should identify 1½ % of the annual median household income.

Projected Monthly Residential Bill (Line 56)
The last step in the water rate analysis is to project the monthly water bill. This figure is computed on Worksheet 2., Line 6. This figure is compared to the l ½ % MHI for as the forth financial analysis.

Budget Accuracy Check
In addition to developing a budget projection, an owner needs to review the accuracy of its past budgets. By comparing actual final performance against past projections, an owner can identify any discrepancies and update the budget. Worksheet l is used to compare budgeted and actual performance. An owner should use this worksheet throughout the budget planning period(s).

Source: State Corporation Commission Staff

**APPLICATION REQUIREMENTS FOR A CERTIFICATE
OF PUBLIC CONVENIENCE AND NECESSITY
FOR WATER AND SEWERAGE SERVICE**

An application for a Certificate of Public Convenience and Necessity must include, but is not limited to, the following:

1) **Proof of incorporation as a public service corporation authorized to do business in Virginia. Issues involving the corporate status of a Company are handled by the Commission's Clerk's Office at (804) 371-9672.**

2) **Does a public service authority exist in the county, city, or town in which the Company serves or plans to serve? If so, approval of governing body (Town Council, Board or Supervisors, etc.) in which the service territory is located is required. If there is no public service authority in the county, city, or town, approval of governing body is not necessary.**

3) **Location of water and/or sewer system.**

4) **Number of customers served or to be served.**

5) **Location of the Company's office(s).**

6) **Name, title, address, and telephone number of person(s) to be contacted with regard to complaints and/or emergencies.**

7) **System Description:**

- ★ **Quantity, size and type of mains used or to be used; include a map of proposed system when available.**
- ★ **Source, yield (GPM), and storage capacity of water system, if applicable; and**
- ★ **Capacity and description of sewage treatment plant, if applicable.**

8) **An estimation of cost of construction, operation and maintenance of system.**

9) **A copy of the following permit(s), where applicable:**

Water - operation permit and system description from State Health Department - can be conditional.

Sewer - permit from State Water Control Board - can be conditional.

10) **A copy of the Company's proposed Rates, Rules, and Regulations. A sample tariff has been enclosed to use as a guide.**

11) **Two identical U.S. Geological Survey Maps outlining in red the Company's requested certified area. The area outlined should be exactly the same on each map. (Send these maps along with one copy of the completed application to: Division of Energy Regulation, State Corporation Commission, Post Office Box 1197, Richmond, Virginia 23209.) These maps can be purchased from the Virginia Division of Mineral Resources in Charlottesville, Virginia or the U.S. Geological Survey in Reston, Virginia.**

12) **Proof that the Company's books are set up in accordance with the Uniform System of Accounts for "Class C" Water Utilities. A copy of the Uniform System of Accounts for "Class C" Water Utilities can be obtained from the Commission's Division of Public Utility Accounting at (804) 371-9950.**

13) **Income Statement**

14) **Balance Sheet**

15) **Copy of latest Tax Return**

16) **Mail original and 8 copies of the completed application, excluding No. 11, to: Office of the Clerk of the Commission, State Corporation Commission, Document Control Center, Post Office Box 1197, Richmond, Virginia 23209.**

VDH Field Offices map

Code Excerpt